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AMSAT NEWS SERVICE
ANS-187

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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SB SAT @ AMSAT $ANS-187.01
ANS-187 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 187.01
>From AMSAT HQ KENSINGTON, MD.
DATE July 06, 2014
To All RADIO AMATEURS
BID: $ANS-187.01

OSCAR Numbers Assigned for CubeSats QB50p1 and QB50p2

In an email to Mr. Wouter Weggelaar PA3WEG, AMSAT-NL and Mr. Jeroen Rotteveel, ISIS CEO, OSCAR Number Administrator William A. (Bill) Tynan, W3XO, announced,
"I have received your request for OSCAR Numbers for CubeSats QB50p1 and QB50p2 and from everything I can determine these spacecraft meet all of the requirements necessary to receive OSCAR numbers.

"Therefore, by the authority vested in me by the AMSAT-NA President, I hereby confer the designation European OSCAR 79 to CubeSats QB50p1 and European OSCAR 80 to CubeSat CubeSats QB50p2. These designations can, of course, for convenience be shortened to EO-79 and EO-80.

I, and the entire amateur satellite community, hope for successful missions for both EO-79 and EO-80 and congratulate AMSAT-NL and the ISIS team as well as  all who contributed to these new Amateur Radio

satellites for their success in building, testing and launching these new OSCARs."

[ANS Thanks Bill W3XO and AMSAT-NA for the above information]

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Reception of the One Millionth Packet from FUNcube-1

Many stations have been receiving the telemetry transmitted by FUNcube-1, which has now been in orbit for 221 days. The spacecraft, which has been operating nominally since launch, is providing on-board health and science data for the many schools and colleges who are already participating in the project around the world.

Since launch, data has been received by more than 650 stations around the world and today our online Data Warehouse received its one millionth packet of information. The Warehouse is now storing more than 256MB of telemetry which is available for educational and research use.

We have been successful in capturing almost 25% of all the telemetry transmitted including almost all of the Whole Orbit Data. This success is a great tribute to our designers of the Flight software, the Dashboard programme and the matching Data Warehouse.

We are also immensely grateful to all the schools, colleges, radio amateurs and other listeners who are providing this data and want to encourage everyone to continue to listen to FUNcube-1 and to upload the data to the Warehouse. This will help enable the project to continue to provide a complete and current data set for analysis.

We would, of course, also love to have additional receiving stations in the FUNcube Ground Station Network. This applies especially to anyone near the poles or who is located on an island in the middle of ocean. Their involvement would help us improve our rate of data capture still further.

Our records show that there were three stations who actually managed to upload the same one millionth packet to the Warehouse today. They are G0EID, OM3BC and DL3SER. If they could contact "operations at funcube.org.uk" we will arrange them to send them a small prize to honour their contribution to the project.

[ANS thanks Graham G3VZV for the above information]

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WD9EWK - 2014 Field Day Report

Even though I only worked the radios for a few hours on Saturday, the 2014 Field Day was another fun time to be on the radio.  I had two objectives for this weekend - try to make a QSO with NA1SS, and try a new radio on HF - which I was able to do.  I was on some satellite passes, making a couple of QSOs, which I'll submit to both ARRL and AMSAT.

Knowing that the ISS would be passing by within minutes of the start of Field Day, I was set up in my back yard for that.  I used my normal FM satellite setup (IC-2820H, Elk log periodic), with the

power cranked down to 5W to fall in the 1B QRP classification I normally operate for Field Day, and was ready to go. About 5 minutes into the pass, and after hearing other stations' calls from NA1SS, I heard my call coming from there. Within seconds, I was getting e-mails, SMS messages, and tweets from friends who also heard that. A nice way to start Field Day! I listened to the rest of the pass, and recorded it. I was on the next ISS pass at 1952 UTC, hoping to hear anything from the ISS on 70cm (around 437.550 MHz) while recording the 145.800 MHz downlink. Lots of activity on 2m just like the earlier pass, but nothing up on 70cm. Did anyone hear anything from the ISS on 70cm during Field Day?

A few hours later, with more shade in the back yard, I broke out the HF setup. An FT-897D with autotuner and its internal battery packs, set to 5W transmit power, and a Buddipole portable dipole with its mast and tripod. Before I started on the satellites in late 2005, I used to do a lot of portable HF operating, so it took no time to get the antenna up and the radio ready to go. Although I heard Field Day activity on most HF bands (10m was surprisingly quiet in the late afternoon), I ended up working 15m and 6m SSB to get a few QSOs.

I tried to work FO-29 during a western pass around sunset, but could not get through with my normal SSB satellite setup - two FT-817NDs, Elk log periodic. Lots of activity, with some who sounded like they may have been overpowering the transponder a bit. Around 0400 UTC, 9pm for me in Arizona, there was a western SO-50 pass where I was able to break through with my IC-2820H at 5W and Elk log periodic. Lots of twisting the antenna around, trying to keep up with the satellite and hear myself on the downlink. I made two QSOs there - one that counted for QSO points and the satellite QSO bonus with VA7VW, and the other was to respond to W6KA calling me. I did not score the second QSO. I heard two other stations calling me, but could not get back to them and complete those QSOs with so many stations trying to get through. Some were not using PL tones on the SO-50 uplink, which only made the situation worse.

I also wanted to make an SSB satellite QSO, so I tried AO-73 about an hour later, at 0500 UTC. A high pass for me, I was able to make a QSO with W5MSQ before another strong station overpowered the transponder. I was using my two FT-817NDs and Elk log periodic for the SSB pass, staying with my normal SSB satellite configuration instead of getting the FT-897D set up for SSB operation. This was the last QSO in my Field Day log.

I have already sent off my QSL request for the NA1SS QSO. Since I recorded the audio from those two passes, I made slideshow videos of them. The first pass, or the 1815-1822 UTC portion I could hear, can be found on YouTube:

https://www.youtube.com/watch?v=1QC3l6NplbM

I removed the first couple of minutes of my recording, since it only had my calls to NA1SS, and one unreadable response from NA1SS.
By the way, did anyone else record this ISS pass? Especially if you are on the west coast? If so, please e-mail me directly.

My slideshow video of the later ISS pass (1953-1957 UTC) is at:

https://www.youtube.com/watch?v=AxsIzal68VM

This was a shallow pass here, with maximum elevation of only 8 degrees, so this was a bit shorter than the earlier recording and slideshow video.

I had the audio recorder sitting near the IC-2820H for the first pass, so it could pick up the speaker audio and my voice. For the later pass, I had a patch cable running between the speaker jack on the TH-D72A HT and the mic jack on the recorder, since I was not planning to work the later pass on 2m. I had my Elk log periodic antenna routed through a diplexer, so the 2m side was going to the HT and the 70cm side to the IC-2820H, in the hopes of working NA1SS on 70cm and recording the audio on 145.800 MHz.

Another summary of my Field Day activity, including some photos, can be seen at:

http://www.arrl.org/soapbox/view/8943

I'm hoping to get out of town for next year's Field Day, which is what I normally do. It is fun to work with a portable setup, but it would be better if the outside temperature was not as hot as it was in Phoenix on Saturday afternoon (108F/42C at one point, in the shade of my back yard!).

[ANS thanks Patrick WD9EWK for the above information]

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AMSAT Field Day Satellite Contact Summary Sheet Due July 14

AMSAT Director Contests and Awards, Bruce Paige, KK5DO says do not forget to turn in your summary sheets in time so that your group can be counted in AMSAT field day. The final date to send them in is July 14. The Satellite Summary Sheet can be found in the AMSAT Field Day Rules document available in PDF format on the AMSAT web:

http://www.amsat.org/?page_id=216

Attach your stories of field day and some pictures. In the past we have been able to use almost all the pictures sent.

Send your submission to Bruce, KK5DO, by e-mail or postal mail. Your Summary Sheet must be received by 11:59 P.M. CDT, Monday, July 14, 2014.

The preferred method for submitting your log is via e-mail to kk5do at amsat dot org or kk5do at arrl dot net. You will receive an email back(within one or two days) from Bruce when he receives your email submission. If you do not receive a confirmation message, then he has not received your submission. Try sending it again or send it to Bruce's other email address.

You may also use the postal service but give plenty of time for your results to arrive by the submission date.

If mailing your submission, the address is:

   Bruce Paige, KK5DO
   Director of Awards and Contests
   PO Box 310
   Alief, TX 77411-0310

[ANS thanks AMSAT Director Contests and Awards, Bruce Paige, KK5DO for the above information]

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ISS Contacts makes 2014 ARRL Field Day, One to Remember!

One of the highlights of this year's ARRL Field Day was a myriad of voice contacts offered up by the International Space Station (ISS).

Through the efforts of crew member Reid Wiseman, many anxious ham radio operators had the experience, perhaps for the first time, of speaking with an astronaut orbiting Earth on board the ISS.

After an announcement on Tuesday, June 24, of possible voice contacts from the ISS during the upcoming weekend, many Field Day stations across the U.S. set up tracking equipment, radios and antennas, vying for a brief chat with an orbiting astronaut.

Through various social media outlets, hams were able to track where ISS voice transmissions were being received and in most cases, which Field Day stations had made contact.

One group that was fortunate enough to connect with the ISS were The Boy Scouts of Raymore, MO, Troop 32. Ham operator, Jim Reicher comments ... " I bet the boys could be heard up in orbit even without a radio when Reid answered our call!"

Field Day is held annually during the 4th  weekend of June and is sponsored by the American Radio Relay League or ARRL. The main purpose of Field Day is to allow ham radio operators a chance to practice their emergency response capabilities and serves as a contest for Field Day stations to contact as many other Field Day stations as possible within a designated 24 hour period.

[ANS thanks ARISS-I and Dave AA4KN for the above information]

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Satellite Operation From Saint Pierre and Miquelon

Eric, KV1J, returns to Insel Miquelon (NA-032, DIFO FP-002 WLOTA 1417, Grid GN17) from July 5th to the 15th to operate as FP/KV1J.

QRV on 160-6m in SSB, RTTY, and some CW. He plans to follow the MUF on the bands and pay particular attention to 6m. Depending on the weather he also plans to operate via satellites.

Eric also plans to participate in the DL-DX RTTY Contest (July 5/6) and the IARU contest. QSL via KV1J, LoTW, eQSL.
http://www.kv1j.com/fp/July14.html

[ANS Thanks DX Newsletter for the above information]

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UKube-1 Launch Information

UKube-1, the UK Space Agency's first CubeSat, carries a set of FUNcube boards with a linear transponder and educational beacon. The

launch is scheduled from Pad 31/6 at Baikonur in Kazakhstan on Tuesday, July 8, 2014 at 15:58:28 UT and to be deployed from the final stage of the Soyuz-2-1B/Fregat-M launch vehicle at 18:32:42 UT.

The UKube-1 Operations Team has just issued their Launch Briefing. This is accompanied by a spreadsheet showing the anticipated UK passes for the first orbits together with a worksheet showing the telemetry equations.

These documents can be downloaded at http://funcube.org.uk/news/

UKube-1 carries a number of experiments and payloads and also the FUNcube-2 transponder and telemetry sub-system. This is intended to support the current, very successful, operations of FUNcube-1 and to provide an even better operational capability for schools and colleges to use for hands on educational outreach around the world. Further details of the educational outreach opportunities are available here http://funcube.org.uk/education-outreach/

When the FUNcube-2 sub-system is activated, the 1k2 BPSK telemetry will be downlinked on 145.915 MHz in the same way as already happens with FUNcube-1.

A new FUNcube-2 Dashboard UI will be released shortly. This will integrate directly with the existing FUNcube Central Data Warehouse and existing usernames and authorisation codes can be re-used.

When the transponder is activated, the downlink passband will be 145.930 to 145.950 MHz and the uplink passband will be 435.080 to 435.060 MHz.

It is anticipated that the FUNcube sub-system may be tested for short periods during the next few weeks depending upon how the LEOP plan progresses.

AMSAT-UK personnel will be supporting the UKube-1 operations team at Chilbolton during the immediate post launch period and will be ensuring that regular status reports are made available via the #cubesat IRC channel.

A web client is available at http://webchat.freenode.net/?channels=#cubesat

AMSAT-UK and their colleagues at AMSAT-NL, are delighted that UKube-1 is carrying this FUNcube sub-system and wishes every success to the UKube Operations Team and to all the many contributors to the project.

There will be a presentation on the satellite's amateur radio payload at the AMSAT-UK International Space Colloquium being held at the Holiday Inn, Guildford, GU2 7XZ on July 26-27, the event is open to all, further details at http://amsat-uk.org/colloquium/colloquium-2014/

UKube-1 frequencies:
* 145.840 MHz Telemetry downlink
* 145.915 MHz FUNcube subsystem beacon
* 400 mW inverting linear transponder for SSB and CW
- 435.080 -435.060 MHz Uplink
- 145.930 -145.950 MHz Downlink
* 2401.0 MHz S Band Downlink
* 437.425-437.525 MHz UKSEDS myPocketQub Downlink

Follow Helen Walker ?@SheAstronomer and Steve Greenland @strickengremlin for up-to-date information on the UKube-1 launch.

FUNcube website
http://www.funcube.org.uk/

FUNcube Yahoo Group
http://amsat-uk.org/funcube/yahoo-group/

FUNcube Forum
http://forum.funcube.org.uk/

Like AMSAT-UK on Facebook
https://www.facebook.com/AMSATUK

Data Warehouse - Telemetry Archive
http://warehouse.funcube.org.uk/

Dashboard App - Telemetry Decoder
http://funcube.org.uk/working-documents/funcube-telemetry-dashboard/

[ANS thanks AMSAT-UK for the above information]

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ESA Competition! Remote Sensing with Multiple Cooperative Nanosats

#1 - Land: To measure land characteristics over a wide spectral range/resolution at a high spatial resolution on timescales that are relevant to changes in the observables.

#2 - Atmospheric Chemistry: To measure NO2 content in the troposphere with high temporal resolution over the diurnal cycle.

#3 -Weather: To measure tropospheric properties (e.g. temperature, pressure, humidity, winds) on rapidly evolving timescales to support forecasting of severe weather events
Proposals must be a joint submission by both academic/research and industry institutions with a budget of 100K Euros for submission on the 1 August 2014. Helen Harrison at the Satellite Applications Catapult are looking for partners and if interested, email:
Helen dot Harrison at sa dot catapult dot org dot uk for further information.

[ANS thanks U.K. Cubesat Forum for the above information]

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ARISS News

+ A Successful contact was made between Gymnasium Markt Indersdorf, Markt Indersdorf, Bavaria, Germany and Astronaut Alexander Gerst KF5ONO using callsign DPØISS. The contact began 2014-06-28 12:08 UTC and lasted about nine and a half minutes. Contact was direct via DN4OD.
ARISS Mentor was Peter IN3GHZ.

+ A Successful contact was made between DLR Project Lab, Neustrelitz, Germany and Astronaut Alexander Gerst KF5ONO using callsign DPØISS. The contact began 2014-07-02 12:05:13 UTC and lasted about nine and a half minutes. Contact was direct via DL1BLV.
ARISS Mentor was Francesco IKØWGF.

Upcoming ARISS Contact Schedule

DLR School Lab, Braunschweig, Germany, direct via DH1ALF
Contact is a go for: Fri 2014-07-11 09:37:47 UTC

The German Aerospace Center (DLR) is one of Europe's largest and most modern research institutions. Here is where the aircraft of the future are being developed and pilots trained, rocket engines tested and images of distant planets analyzed. In addition, over 7,700 DLR staff members are investigating next-generation high-speed trains, environmentally responsible methods of generating energy, and much more ...
DLR_School_Lab in Braunschweig investigates many topics related to transportation: whether on the road, rails, or in the air. In various experiments, school classes can acquaint themselves with the research topics being studied at the science institutes at DLR Braunschweig. German is the language expected to be used in the contact.

ARISS  congratulations the following mentors who have now mentored over 100
schools:

Gaston ON4WF with 117
Satoshi 7M3TJZ with 102
Francesco  IKØWGF with 102

[ANS thanks ARISS, Charlie AJ9N and David AA4KN for the above information]

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Satellite Shorts From All Over

+ Reid Wiseman KF5LKT Wins Twitter Award

NASA astronaut Reid Wiseman KF5LKT has been putting on a social media clinic since arriving at the International Space Station May 29. His Twitter following has rocketed from less than 37,000 when the month started to 126,000 today. There's a good reason for that, just check out his best tweets from June:
http://tinyurl.com/ANS-187-Twitter

[ANS thanks The Washington Post for the above information]

+ Last Call for Digital Communications Conference Papers

July 14 is the deadline to submit papers for the proceedings of 2014 ARRL/TAPR Digital Communications Conference<http://www.tapr.org/dcc>, September 5 - 7, in Austin, Texas.

You do not have to attend the conference to have your paper included in the proceedings. Your paper on any technical topic relevant to amateur digital communications will be published as submitted and you will retain all rights.

Please e-mail your submission no later than July 14 to Maty Weinberg, KB1EIB, ARRL Production Coordinator, at maty(a)arrl.org. Send text files and images separately and do not attach Zip files. Total of attachments cannot exceed 5 Mbytes per message.

[ANS Thanks Steve Ford WB8IMY for the above information]

+ Spot the Space Station Looking at You

Spot the Station is a joint project by NASA, Esri, the Canadian Centre of Geographic Sciences and Alexander Gerst and crewmate Reid Wiseman.
The locations and images will be collected throughout their mission until Alexander, Reid and commander Maxim Suraev return to Earth in November.

Find out where the Station is and enjoy the same views as the astronauts by visiting ESA's Space Station tracker. The orbital outpost flies over the planet between latitudes 52+ N/S, reaching from the tip of South America to the UK.

You are invited to share the view by taking a picture as the astronauts streak through the night sky. It is not difficult. Keep your camera steady on a tripod and make sure your exposure time is more than 30 seconds. If all goes well, you should capture a white streak that is the Station flying at 23 times the speed of sound.

For the complete story visit:
http://tinyurl.com/ANS-187-SpotStation

[ANS Thanks Space-Travel.com for the above information]

+ World Space Week 2014

"The (UN) General Assembly declares 4 to 10 October World Space Week to celebrate each year at the international level the contributions of space science and technology to the betterment of the human condition"

Space: Guiding Your Way
World Space Week 2014 will be all about satellite navigation. In this decade we see the number of satellite navigation systems grow from one (GPS) to many (Galileo, Glonass, Beidou). At the same time we see the number of applications for humanity rapidly increase too. The relevance of positioning, navigation and timing from space is much larger than many think. 2014 is a great year to highlight these applications and benefits by choosing it as the central theme for World Space Week.

We aim to inspire as many event organizers as last year with this new theme. We are working with our partners in the space and space applications industry to help us collect education and other material for events. Please keep an eye on this website for more news soon.
http://www.worldspaceweek.org/wsw/index.php

[ANS Thanks World Space Week for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive addi-tional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership
at one-half the standard yearly rate. Post-secondary school students
enrolled in at least half time status shall be eligible for the stu-
dent rate for a maximum of 6 post-secondary years in this status.
Contact Martha at the AMSAT Office for additional student membership
information.

73,
This week's ANS Editor,
EMike McCardel, KC8YLD
kc8yld at amsat dot org